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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,683	01/27/2004	Craig I. Walker	2884.WSG.PT	1460
26986	7590	04/19/2005	EXAMINER	
MORRISS O'BRYANT COMPAGNI, P.C.			HANAN, DEVIN J	
136 SOUTH MAIN STREET			ART UNIT	
SUITE 700			PAPER NUMBER	
SALT LAKE CITY, UT 84101			3745	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/765,683,	Applicant(s) WALKER, CRAIG I.	
	Examiner Devin Hanan	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/9/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

Figures 1-8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-4, 7, 9-15 and 18-20 are rejected under 35 U.S.C. 102(b) as being disclosed by Pfarrer (U.S. Patent 2,537,084).

Pfarrer discloses a pump casing with a volute section (16) having a discharge (59) formed therein and having a cutwater (tangential wing 20) positioned adjacent said discharge;

a suction side (from inlet tube 31); and

a drive side (around shaft 15);

where at least one of said suction side or said drive side is further configured as a side liner having a non-circular perimeter edge (disk 61 and tab 63, col. 5 lines 56-74 or disk 64 and tab 66 col. 5-6 lines 75-21) for attachment to said volute section.

Regarding claim 2 Pfarrer discloses a suction side (61) and said drive side (64) are structured as side liners.

Regarding claim 3, Pfarrer discloses a pump casing with a suction side liner (61 and 63) and said drive side liner (64 and 66) having non-circular perimeter edges for attachment to said volute section.

Regarding claim 4, Pfarrer discloses a drive side structured as a side liner (64 and 66) with a non-circular perimeter edge.

Regarding claim 7, Pfarrer discloses a side liner further structured with a radially extending portion oriented toward said cutwater (63 and 66).

Regarding claim 9, Pfarrer discloses centrifugal pump with a volute section (16) having a discharge (59) formed therein and having a cutwater (tangential wing 20) positioned adjacent said discharge;

a suction side (61) attached to said volute section;

a drive side (64) attached to said volute section; and

at least one of either said suction side or said drive side has a perimeter edge and a radially extending portion (63 and 66) oriented toward said cutwater.

Regarding claim 10, Pfarrer discloses a perimeter edge with at least one side being non-circular (61 and 63 or 64 and 66).

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Regarding claim 11, Pfarrer discloses at least one side is formed as a side liner (61 and 64).

Regarding claim 12, Pfarrer discloses a side liner on the drive side (64).

Regarding claim 13, Pfarrer discloses a side liner is on the suction side (61).

Regarding claim 14, Pfarrer discloses at least one side having a radially extending portion with a perimeter edge with a portion of which is circular (col. 5 lines 57-60).

Regarding claim 15, Pfarrer discloses a radially extending portion has an apex (63 and 66) and a radial distance D_p that is greater than the radius of a portion of a side that is circular.

Regarding claim 18, Pfarrer discloses a centrifugal pump with volute section (16) having a cutwater (tangential wing 20);

a drive side (64) connected to said volute section;

a suction side (61) connected to said volute section; and

a radially extending portion (63 or 66) oriented toward said cutwater and positioned on at least one of said drive side or said suction side to localize wear on said casing to said radially extending portion.

Regarding claim 19, Pfarrer discloses a radially extending portion is positioned on said drive side (66).

Regarding claim 20, Pfarrer discloses a radially extending portion is positioned on said suction side (63).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfarrer in view of Becker (U.S. Patent 5,228,831).

Regarding claims 6 and 16, Pfarrer discloses all of the above mentioned elements, including a volute section with a peripheral extending profile, but does not disclose an open cutwater configuration.

However, Becker teaches of a centrifugal pump with a cutwater flush with the annular chamber for the purpose of reducing wear (col. 1 lines 13-22).

Since Pfarrer and Becker are from the same field of endeavor the purpose disclosed by Becker would have been recognized in the pertinent art of Pfarrer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pump of Pfarrer to include an open cutwater as taught by Becker in order to reduce wear.

Allowable Subject Matter

Claims 5, 8 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

The patent to Schreter et al. (U.S. Patent 3,607,600) was cited for its teaching of a substantially open cutwater and an elastomeric surface layer.

The patent to Nantt et al. (U.S. Patent 6,450,767) was cited for its teaching of a non circular wear insert (8) extending into the outlet.

The patent to Catterfeld et al. (U.S. Patent 4,893,986) was cited for its teaching of a different section for the volute section, suction section and drive section.

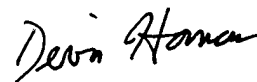
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devin Hanan whose telephone number is 571-272-6089. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on 571-272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Devin Hanan
Patent Examiner
Art Unit 3745



EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

4/18/05